

REMARKS/ARGUMENTS

The present remarks are being submitted in response to the Office action dated August 5, 2004. In the Office action, the Examiner rejects claims pending claims 1-29, 31, 32, 35 and 36 under 35 U.S.C. §103(a). Particularly, the Examiner rejects claims 1-11, 32, and 35 as unpatentable over U.S. Pat. No. 5,504,575 of Stafford ("Stafford") in combination with U.S. Pat. No. 5,483,335 of Tobias ("Tobias"); rejects claims 18-29, 31 and 36 as being unpatentable over Stafford, Tobias and U.S. Pat. No. 6,177,992 of Braun; and rejects claims 12-17 as unpatentable over Stafford, Tobias, also U.S. Pat. No. 3,090,278 of Saunderson ("Saunderson").

These rejections follow amendments made by Applicants in association with a request for continued examination. The Applicants have previously pointed out that none of the previously cited references disclosed an optical apparatus including an *array* of optical detectors, as recited in the claimed invention, which allowed the apparatus to monitor spectral channels both concurrently and in a time division multiplexed manner. These advantages are discussed for example in paragraphs [0023] and [0025] of the pending application.

Applicants' undersigned attorney discussed these advantages in an interview with the Examiner on April 7, 2004. Applicants' undersigned attorney and the Examiner agreed that the respective combinations of prior art did not suggest or teach an optical apparatus and method with the capability to perform both concurrent detection and sequential (e.g., time-division-multiplexed) detection. Applicants submitted proposed claims that clarified these distinctions. In a subsequent telephone conference, the Examiner agreed that these proposed claims clarified the novel capability discussed in the interview. Notwithstanding, the Examiner has continued to assert rejections with respect to the 103 combinations of Stafford, Tobias, Braun and Saunderson.

Applicants submit that the Examiner has applied these references in an inappropriate "piecemeal" manner using hindsight. The Examiner has provided no objective evidence that one skilled in the art would be lead to combine the references in the proposed manner. Moreover, the Examiner has chosen to ignore objective evidence in the prior art references that *teaches away*

from the Examiner's proposed combinations. For all of these reasons, Applicants assert that the rejections should be withdrawn.

Stafford in view of Tobias

The Examiner rejected claims 1-7, 32 and 35 as unpatentable over Stafford in view of Tobias. Tobias was cited for its disclosure of multiple detectors, i.e., "array detectors". Namely, the Examiner asserted that it would be obvious to combine the array detectors of Tobias with the multiplexed system of Stafford to provide the claimed inventions. Applicants respectfully assert that this proposed combination cannot obviate any of the pending claims.

First, Applicants assert that the proposed combination is improper. Stafford expressly indicates that a detector that is employed in should preferably be "as linear as possible over as wide a wavelength range as possible, to provide a broadband spectrometer." (Stafford, col. 5, lines 19-22). Thus, Stafford teaches toward using a single detector with a linear response, and *teaches away* from using an array type detector such as that used in Tobias. Therefore, one skilled in the art would not be motivated to combine the arrays of Tobias with Solgaard in the suggested manner.

Moreover, while Tobias teaches using array detectors for certain situations, it *expressly teaches away from using array detectors to both multiplexed and concurrent detection*, as provided and discussed in the present invention. Particularly, Tobias teaches that by using "parallel rather than sequential data acquisition" various advantages can be achieved, such as rapid acquisition of the "complete spectrum", "enhanced signal-to-noise ratio" and elimination of "moving parts", "resulting in reduced cost and improved life and stability." (Tobias, col. 4, lines 43-50). The express goal of eliminating moving parts directly contradicts the claimed inventions that employ individually controllable beam manipulating elements to provide both concurrent and sequential detection. Thus, Tobias teaches that when performance is the main goal, array detectors can be employed in a parallel detection system. Alternatively, Tobias teaches using a "chopper wheel" to provide an "inexpensive" single detector system. (See e.g., Tobias, col. 6, lines 3-42). Thus, Tobias teaches using *either* an array of detectors for performance considerations, *or alternatively*, using a single detector and chopper wheel for an inexpensive

solution. Tobias does not contemplate or suggest (and in fact teaches away from) using both sequential and parallel detection schemes. Therefore, Applicants assert that the proposed combination is improper.

Finally, even if the array of Tobias were combined with Stafford, there is no suggestion that it could be used to provide both sequential and concurrent detection. Thus, even if the combination were made, it would not automatically provide a system that could perform both concurrent and sequential detection. The Examiner has not cited to any objective evidence in the record that the control components of Stafford could be modified manage anything more than a single detector system, i.e., system with an array of detectors.

In response to these arguments, the Examiner makes several points: (1) that Stafford “discloses a single device which can perform sequential or concurrent detection”; and (2) that although Stafford prefers a detector with a highly linear response (e.g., a single detector), “any deviation from a linear response can be compensated by processing software” and that “such post-compensation would be readily applied to an array of detectors.”

With respect to the first point (1), whether Stafford’s single detector device can provide sequential or concurrent detection for a single detector is not at issue. In response to the last Office action, Applicants did not take issue with Stafford’s purported ability to perform sequential and concurrent detection on a single detector.¹ The focus of Applicants’ arguments were that the Examiner’s combinations of references under 103 were improper. Therefore, the Examiner’s first point (1) is not relevant to the present response and does support the proposed combinations.

With respect to the second point (2), the Examiner’s assertion that “any deviation from a linear response can be compensated by processing software” is a substantial overstatement of the teachings of Stafford and is not supported by the evidence of record. Stafford’s discussion of

¹ This should not be construed as an admission that Stafford does in fact provide this capability. Applicants reserve the right to separately challenge this issue at a later time.

compensation using post-detection software does *not* state or suggest that “any” deviation from a linear response can be cured by post-detection software. Rather, Stafford states that only “known non-linear portions” of a single detector (not an array of detectors) can be addressed by the post-detection software. (Stafford, col. 5, lines 22-23; col. 7, lines 1-2). There is no evidence that “such post-compensation would readily be applied to an array of detectors.” Specifically, the Examiner provides no objective evidence from the record that the limited software solution mentioned by Stafford could be applied to cure the non-linear issues relating to an array of detectors. In order to support a proposed combination under §103, an Examiner must cite to objective evidence in the record. An examiner may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. *See In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968). Since there is no objective evidence contained in the references that the limited “post-compensation” processing software discussed by Stafford could readily be applied to an array of detectors, the Examiner’s second point (2) cannot support the proposed combination.

The Examiner also asserts that “an array of detectors offers additional flexibility in that each detector can be adjusted individually so that the array as a whole provides a suitably linear response, which can beneficially reduce the dependence on post-compensation software.” Again, there is no objective evidence of record that supports this assertion. Such broad conclusory statements regarding the teaching of multiple references, standing alone, are not “evidence.” *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

No objective evidence of record supports the position that one skilled in the art would be lead to combine the references in the manner suggested by the Examiner. In fact, the only evidence of record relating to array detectors *expressly teaches away from using array detectors to both multiplexed and concurrent detection*. (See Tobias arguments, *infra*). Furthermore, the primary reference used by the Examiner in all of the rejections (i.e., Stafford), teaches toward using a single detector with a linear response, and *teaches away from using an array type detector such as that used in Tobias*. Finally, even if such a combination were attempted, there is

no evidence that the that the intended purpose of the proposed combination (e.g., using an array of detectors sequentially and concurrently) could be achieved.

Stafford in view of Tobias and Braun

The Examiner rejected claims 18-27, 29 and 36 as unpatentable over Stafford in view of Tobias and Braun. Braun was cited for its ability to handle input signals with orthogonal polarizations. Applicants incorporate by reference the arguments made above with respect to the combination of Stafford and Tobias. Particularly, Applicants assert that the combination is improper because the Examiner has not provided any objective evidence of record that would lead one skilled in the art to combine the references in such a manner. Furthermore, the references specifically teach away from the proposed combination. Moreover, even if the combination could be made it would not necessarily provide a system having the capability for both concurrent and sequential detection.

For at least these reasons, Applicants respectfully assert that claims 18-27, 29 and 36 are patentable over Stafford in view of Tobias and Braun.

Stafford in view of Tobias and Saunderson

The Examiner rejected claims 12-17 as unpatentable over Stafford in view of Tobias and Saunderson. Saunderson was cited primarily for its disclosure of a refer. Applicants incorporate by reference the arguments made above with respect to the combination of Stafford and Tobias. Particularly, Applicants assert that the combination is improper because the Examiner has not provided any objective evidence of record that would lead one skilled in the art to combine the references in such a manner. Furthermore, the references specifically teach away from the proposed combination. Moreover, even if the combination could be made it would not necessarily provide a system having the capability for both concurrent and sequential detection.

For at least these reasons, Applicants respectfully assert that claims 12-17 are patentable over Stafford in view of Tobias and Saunderson.

CONCLUSIONS

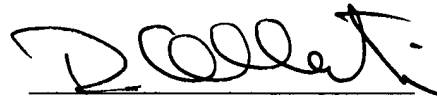
Applicants' inventions as set forth in the amended claims are both novel and nonobvious over the prior art for the reasons set forth above.

For all of these reasons, Applicants respectfully assert that all pending claims 1-29, 31, 32, 35 and 36 are in condition for allowance. The Examiner's early reconsideration is respectfully requested. If the Examiner has any questions, the Examiner is invited to contact Applicants' attorney at the following address or telephone number:

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Respectfully submitted,

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